
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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TITANIUM IN THE FIRST QUARTER 1997

Ores and Concentrates

E. I. du Pont de Nemours and Co. (DuPont) announced it will indefinitely delay the development of a deposit near the eastern edge of the Okefenokee National Wildlife Refuge. DuPont plans to hold discussions with interested parties regarding the environmental impact of developing the 38,000 acres (E. I. du Pont de Nemours and Company, 1997).

Metal

According to the U.S. Geological Survey, receipts of titanium scrap totaled 10,100 metric tons with 4,000 tons of home scrap and 6,100 tons of purchased scrap. Scrap receipts increased 3% compared with those of the previous quarter. Ingot shipments were 6,120 tons.

The U.S. Department of Commerce, International Trade Administration (ITA) published preliminary results of an antidumping review for imports of titanium sponge from Russia. The review covered imports from Berezniki Titanium-Magnesium Works (AVISMA), Interlink Metals and Chemicals Inc., Comets Inc., and TMC Trading Company Inc. (TMC) during the period August 1, 1995, through July 31, 1996. The ITA determined the dumping margins for Interlink, Comets, and the Russia-wide rate would remain unchanged at 0%, 28.31%, and 83.96%, respectively. However, the margin for TMC was determined to be 0%, essentially eliminating the antidumping duty. Previously TMC was subject to the Russia-wide rate of 83.96%. Final determinations were expected within 120 days following the May 12, 1996, notification (U.S. Department of Commerce, International Trade Administration, 1997).

Two domestic producers of titanium ingot announced plans to expand titanium ingot capacity through the use of electron-

beam cold-hearth technology. Titanium Metallurgical Corp. (Timet) announced plans to build a 9,000-ton-per-year expansion through its wholly owned subsidiary Titanium Hearth Technologies in Morgantown, PA. Meanwhile Oregon Metallurgical Corp. is considering an expansion of a similar size at its Albany, OR, facility. Expansions are expected to be completed by mid- to late 1998 (Haflich, F., 1997).

Timet and Valinox Welded are planning a joint venture called Valimet that will own and operate the titanium tubing businesses of both companies. Timet produces welded tubing at its facilities in Morristown, TN, and Toronto, OH. Valinox produces welded tubing in Les Laumes, France, and holds a controlling interest in a producer in China. Timet is expected to be the primary supplier of titanium strip that the joint venture will require to produce welded tubing (Platt's Metals Week, 1997b).

Timet agreed to acquire 20% interest in Titanium Memory Systems Inc. (TMS). TMS is developing a titanium substrate suitable for computer hard disk drives. When TMS enters into production Timet is expected to be the primary supplier of titanium strip (Platt's Metals Week, 1997a).

Pigment

In January, an explosion at Kemira Pigments B.V. Rotterdam, Netherlands, pigment facility halted production. One employee was killed while two others were injured. According to the company, at the time of the explosion, maintenance work was in progress at the plant and production had been shut down. Production at the 56,000-ton-per-year chloride route pigment facility was not expected to resume for several weeks after the explosion (Kemira Pigments Oy B.V., 1997).

Notice

Excluding prices, the data in this publication have been rounded to three significant figures.

References Cited

E. I. Du Pont de Nemours and Co., 1997, DuPont stops proposed mining activities near the Okefenokee national wildlife refuge, E. I. du Pont de Nemours and Company press release, April 11. (Accessed May 15, 1997, on the World Wide Web at URL <http://www.dupont.com/corp/whats-new/releases/970411.html>)
Haflich, F., 1997, RMI sits on fence as capacity leaps: American Metal Market,

v. 105, no. 8, May 5, p. 1.
Kemira Pigments Oy B.V., 1997, Explosion at Kemira Pigments Netherlands Plant, Kemira Pigments Oy B.V. press release, April 11. (Accessed April 15, 1997, on the World Wide Web at URL <http://www.kemira.com/kemira96/news/news10.htm>)
Platt's Metals Week, 1997a, Timet to invest in Titanium Memory: v. 68, no. 18, May 17, p. 9.
———1997b, Timet, Valinox team for Ti tubing: v. 68, no. 11, May 5, p. 15.
U.S. Department of Commerce, International Trade Administration, 1997, Titanium sponge from the Russian Federation—Preliminary results of antidumping duty administrative review: Federal Register, v. 62, no. 91, May 12, p. 25920-25923.

TABLE 1
COMPONENTS OF U.S. TITANIUM METAL SUPPLY AND DEMAND 1/

(Metric tons)

	1996					1997
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	First quarter 2/
Production:						
Sponge	W	W	W	W	W	W
Ingot	12,300	13,000	13,000	13,100	51,400	13,800
Mill products	7,150	7,690	8,000	7,860	30,700	8,330
Exports:						
Sponge	87	62	136	243	528	160
Scrap	540	600	1,080	1,190	3,410	557
Ingot, slab, sheet bar, etc.	640	1,080	918	1,180	3,120	635
Other unwrought	118	111	110	133	471	66
Bars, rods, profiles, and wire	522	332	294	255	1,400	177
Other wrought	737	1,010	716	674	3,130	599
Total	2,640	3,190	3,250	3,670	12,100	2,190
Imports:						
Sponge	2,480	2,010	2,460	3,160	10,100	2,530
Waste and scrap	4,210	4,130	4,180	3,840	16,400	2,000
Ingot, billet	444	309	752	1,090	2,590	834
Other unwrought	108	132	204	152	595	87
Articles of titanium	58	108	57	38	261	50
Other wrought (mill products)	1,320	1,000	1,800	1,760	5,890	950
Total	8,630	7,690	9,450	10,000	35,800	6,450
Stocks, end of period:						
Sponge, Government 3/	33,400	33,400	33,400	33,200	XX	33,200
Sponge, Industry	5,290	5,500	4,000	4,390	XX	5,250
Scrap	11,800	10,100	15,400	15,900	XX	16,400
Ingot	4,120	3,940	3,970	4,710	XX	4,310
Total industry	21,200	19,600	23,300	25,000	XX	25,900
Consumption:						
Sponge	6,680	6,310	8,570	6,850	28,400	6,890
Scrap	6,110	6,130	6,740	7,320	26,300	6,620
Ingot	8,960	9,970	9,420	9,920	38,300	10,500
Mill products (net shipments):	6,010	6,110	6,960	6,840	25,900	6,780
Forging and extrusion billet	2,340	2,330	3,380	3,200	11,200	3,040
Rod and bar	655	981	670	793	3,100	736
Other 4/	3,010	2,800	2,910	2,850	11,600	3,000
Castings (shipments)	227	169	139	144	680	125

W Withheld to avoid disclosing company proprietary data. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Imports and exports for first quarter 1997 include January and February only. March 1997 data not available at time of publication. Production and consumption data are for full quarter.

3/ Includes 23,300 tons stockpile grade and 9,860 tons nonstockpile grade material.

4/ Data for sheet and strip, plate, fastener stock and wire, extrusions (other than tubing), pipe and tubing, and other have been combined to avoid disclosing company proprietary data.

TABLE 2
COMPONENTS OF U.S. TITANIUM DIOXIDE PIGMENT SUPPLY AND DEMAND 1/

(Metric tons)

	1996					1997
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	First quarter
Production	296,000	307,000	304,000	320,000	1,230,000	316,000
Imports 2/	41,900	41,000	42,000	42,300	167,000	XX
Exports 3/	76,500	75,300	83,000	97,400	332,000	XX
Stocks, end of period	129,000	116,000	98,300	107,000	XX	97,300
Apparent consumption 4/	252,000	285,000	281,000	257,000	1,070,000	NA

NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Based on Harmonized Tariff Schedule of the United States (2823.00.0000, 3206.10.0050, and 3206.10.0010).

3/ Based on Harmonized Tariff Schedule of the United States (2823.00.0000 and 3206.10.0000).

4/ Apparent consumption = production + imports - exports - stock increase or + stock decrease.

Source: Bureau of the Census.

TABLE 3
U.S. EXPORTS OF TITANIUM PRODUCTS 1/

(Metric tons)

	1996					1997
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	January- February
Metal:						
Unwrought:						
Sponge	87	62	136	243	528	160
Scrap	540	600	1,080	1,190	3,410	557
Billet	130	88	85	186	489	87
Blooms and sheet bars	401	943	802	911	3,060	477
Ingot	109	50	31	78	269	71
Other unwrought	118	111	110	133	471	66
Wrought:						
Bars, rods, profiles, and wire	522	332	294	255	1,400	177
Other	737	1,010	716	674	3,130	599
Ores and concentrates	3,090	5,630	6,050	722	15,500	2,370
Oxides	8,320	7,730	11,300	13,200	40,600	6,640
Pigments	68,200	67,600	71,600	84,200	292,000	63,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM METAL 1/

(Metric tons)

	1996					1997
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	January- February
Unwrought:						
Sponge:						
China	79	176	274	304	833	167
Japan	849	891	1,200	1,470	4,400	1,160
Kazakstan	60	45	330	485	920	345
Russia	1,450	644	583	896	3,570	750
Other	48	256	71	4	379	105
Total	2,480	2,010	2,460	3,160	10,100	2,530
Waste and scrap:						
Canada	91	101	106	111	409	53
France	228	251	181	187	848	177
Germany	140	182	204	33	559	16
Italy	406	233	330	407	1,380	132
Japan	487	692	717	720	2,620	266
Russia	1,950	1,390	1,160	987	5,490	590
United Kingdom	656	861	1,140	1,110	3,770	610
Other	251	419	345	285	1,300	154
Total	4,210	4,130	4,180	3,840	16,400	2,000
Ingot and billet:						
France	26	5	--	--	30	--
Japan	43	3	19	3	67	(2/)
Kazakstan	91	--	--	--	91	--
Russia	183	240	402	725	1,550	573
United Kingdom	86	62	218	270	635	148
Other	15	--	113	90	221	113
Total	444	309	752	1,090	2,590	834
Powder	39	36	88	77	240	48
Other 3/	69	96	116	75	355	39
Wrought:						
Articles of titanium:						
Castings	1	1	1	1	4	1
Other	57	107	56	37	257	49
Other wrought (mill products):						
Bars, rods, profiles, and wire	416	187	427	682	1,710	388
Plates, sheets, strips, and foil	775	746	1,050	915	3,490	331
Tubes and pipes	119	59	82	51	311	5
Other	10	9	241	114	374	226
Total mill products	1,320	1,000	1,800	1,760	5,890	950

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

3/ Includes blooms, sheet bars, slabs, and other.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM CONCENTRATES 1/

(Metric tons)

	1996					1997
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	January- February
Ilmenite:						
Australia	89,100	58,000	68,900	143,000	359,000	44,700
India	80,100	34,200	--	--	114,000	26,200
Sri Lanka	--	--	29,400	--	29,400	--
Ukraine	15,800	--	--	--	15,800	--
Total	185,000	92,200	98,400	143,000	518,000	70,900
Titanium slag:						
Canada	6,750	4,790	--	--	11,500	30,400
South Africa	41,600	108,000	115,000	145,000	410,000	20,700
Other	--	2	--	--	2 2/	--
Total	48,300	113,000	115,000	145,000	421,000	51,200
Rutile:						
Australia	17,800	8,080	5,410	14,700	46,000	4,240
South Africa	32,600	37,700	41,100	23,400	135,000	28,600
Other	--	843	337	3	1,180 2/	--
Total	50,400	46,600	46,800	38,200	182,000	32,800
Synthetic rutile:						
Australia	35,100	19,100	41,000	13,300	108,000	21,000
Malaysia	1,900	1,140	3,810	--	6,850	456
Other	--	--	27,200	--	27,200 2/	--
Total	37,000	20,200	71,900	13,300	142,000	21,500
Titaniferous iron ore:						
Canada	308	36,200	15,000	38,700	90,200	--

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data under review.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM PIGMENTS 1/

(Metric tons)

	1996					1997
	First quarter	Second quarter	Third quarter	Fourth quarter	Year to date	January-February
80% or more titanium dioxide:						
Canada	13,400	16,300	17,600	17,600	64,900	12,300
China	204	316	120	131	771	52
Finland	374	214	223	155	966	120
France	749	718	711	650	2,830	514
Germany	3,470	3,470	4,490	3,060	14,500	3,880
Japan	1,260	1,170	916	866	4,210	884
Norway	1,710	1,390	1,390	928	5,410	583
Poland	820	--	20	100	940	288
Singapore	1,150	1,090	1,170	939	4,030	799
Slovenia	571	198	375	306	1,450	241
United Kingdom	61	121	1	19	202	--
Other	929	696	911	1,110	3,640	628
Total	24,700	25,700	27,900	25,900	104,000	20,300
Other titanium dioxide:						
Canada	392	186	210	201	989	29
France	3,130	1,440	2,250	2,950	9,780	1,590
Germany	482	276	342	225	1,330	165
South Africa	1,230	1,910	1,390	1,270	5,790	1,230
Spain	2,090	2,910	4,220	4,660	13,900	3,430
United Kingdom	819	1,420	631	671	3,540	791
Other	1,650	971	585	894	4,100	597
Total	9,790	9,110	9,640	10,900	39,400	7,840
Titanium oxide:						
Belgium	660	607	637	389	2,290	426
Canada	2,580	245	--	109	2,930	--
France	1,530	1,870	888	936	5,230	2,450
Germany	1,470	2,300	1,890	2,570	8,230	1,220
Japan	554	281	142	198	1,180	187
United Kingdom	60	61	80	541	742	121
Other	525	814	789	775	2,900	--
Total	7,380	6,180	4,430	5,520	23,500	4,850
Grand total	41,800	41,000	42,000	30,700	155,000	33,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 7
PUBLISHED PRICES OF TITANIUM MATERIALS

(End of period, First quarter 1997)

Specification of material	Range
Ilmenite, per metric ton:	
F.o.b. Australian ports	\$82 -- \$93
Titanium slag, per metric ton: 1/	
80% TiO ₂ , Canada	340
85% TiO ₂ , South Africa	258
Rutile, per metric ton:	
Natural:	
Bagged, f.o.b. Australian ports	525 -- 575
Bulk, f.o.b. Australian ports	650 -- 750
Sponge metal, per pound:	
Estimated, domestic	4.25 -- 4.50
Titanium scrap, per pound:	
Turnings, unprocessed (Ti-6Al-4V)	.80 -- .50
Ferrotitanium, per pound:	
70% (max. 4.5% Al) per pound Ti	2.45 -- 2.50
Titanium dioxide pigment, per pound:	
Anatase, f.o.b. U.S. plants, list price	1.06 -- 1.08
Rutile, f.o.b. U.S. plants, list price	1.04 -- 1.06

1/ Estimated based on U.S. imports for consumption.

Sources: American Metal Market, Chemical Market Reporter, Industrial Minerals (London), Platt's Metals Week, and industry contacts.